Screening Method For Site Specific Resource Protection Area Determinations

ANNUAL BAY ACT CONFERENCE

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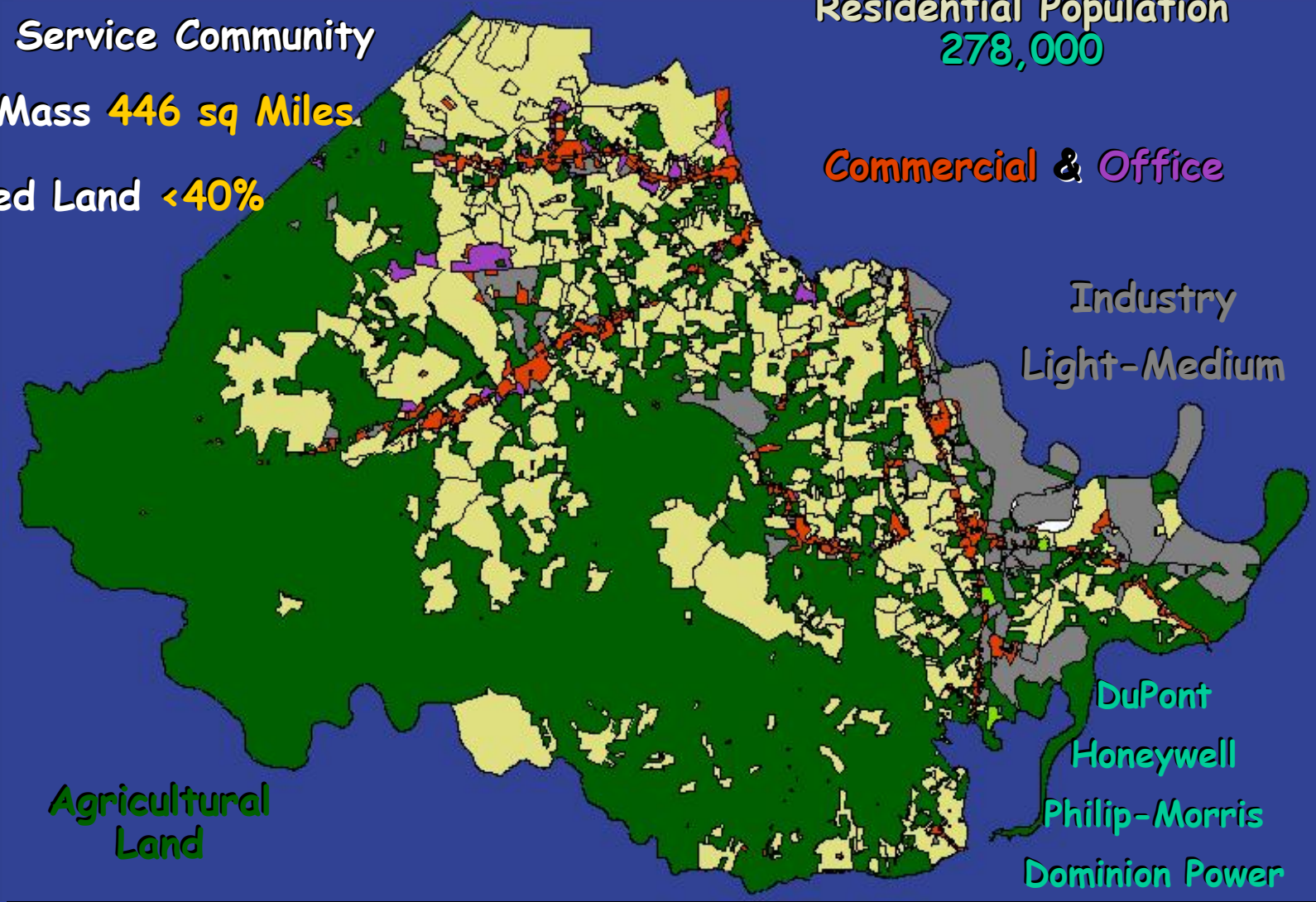
Community Profile

Full Service Community

Land Mass 446 sq Miles

Developed Land <40%



Residential Population
278,000

Commercial & Office

Industry
Light-Medium

DuPont
Honeywell
Philip-Morris
Dominion Power

Agricultural
Land

Background

- Adopted October 1990 and Re-Adopted November 1991
- In-house soil scientist and engineers established a “rough estimate” of RPA Conservation Areas
- RPA Conservation Areas were mapped and included as part of the county’s GIS database
- Determined the Plan of Development Process would be utilized to adjust RPA buffers based upon field information at the time of new development

Initial RPA Boundaries

- Identified all “Blue Line” Perennial Streams from USGS Quad Sheets
- 100’ conservation area measured from one of the following:
  - Existing100-Year floodplain limits
  - Where floodplain limits were not available:
    - NRCS Soil Survey (Hydric Soils)
    - National Wetlands Inventory map (Wetland Boundaries)
- Mapped all limits on the GIS database

Chesterfield Streams & Watersheds

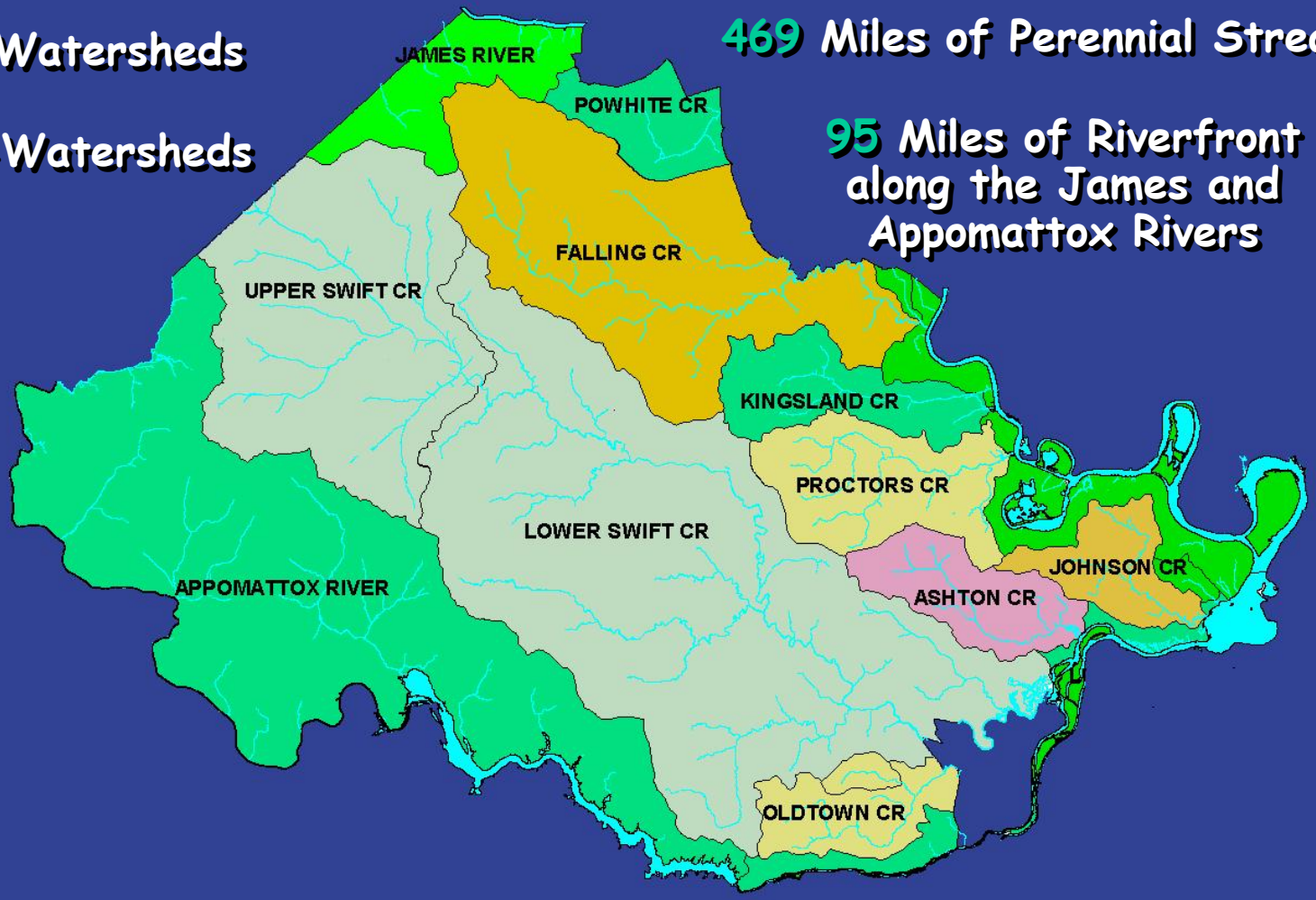
873 Miles of Intermittent Streams

10 Primary Watersheds

469 Miles of Perennial Streams

70 Sub-Watersheds

95 Miles of Riverfront along the James and Appomattox Rivers



Matrix for RPA Determination

	RPA Present ?	
	Check GIS Database	
	What type of Development ?	
Residential Subdivision	Commercial/Industrial	Single Family Residential
	What Process ?	
Tentative Review	Commercial Site Plan Review	Building Permit Review
	Information Required ?	
Wetland Delineation and Plan of Development	Wetland Delineation and Plan of Development	Staff Researches the permit area and provides recommendations
	How are adjustments established ?	
Subdivision Recordation	Construction Plan Approval	Staff Engineers and waivers from the Director

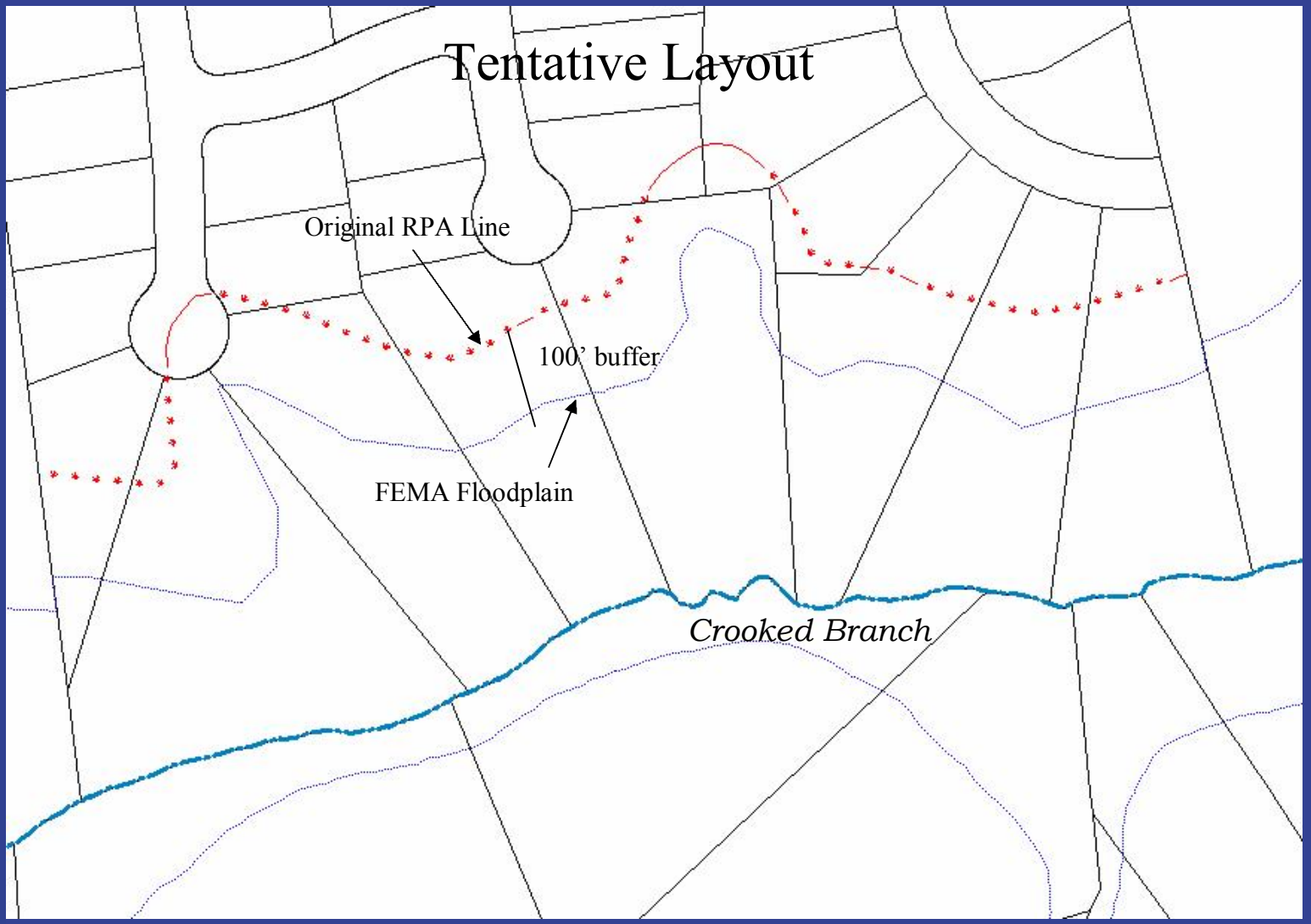
Plan of Development Review

- Residential
  - Traditional Subdivisions
  - Townhouse Subdivisions
- Commercial
  - Multi-family Residential
  - Commercial/Industrial
  - Schools, Municipal, Capital Improvement Projects
- Single Family Residential
  - Stand-Alone Parcels zoned for Agricultural Use
  - Building Permits for Additions
  - Building Permits for Residential Areas Recorded Prior to 1989

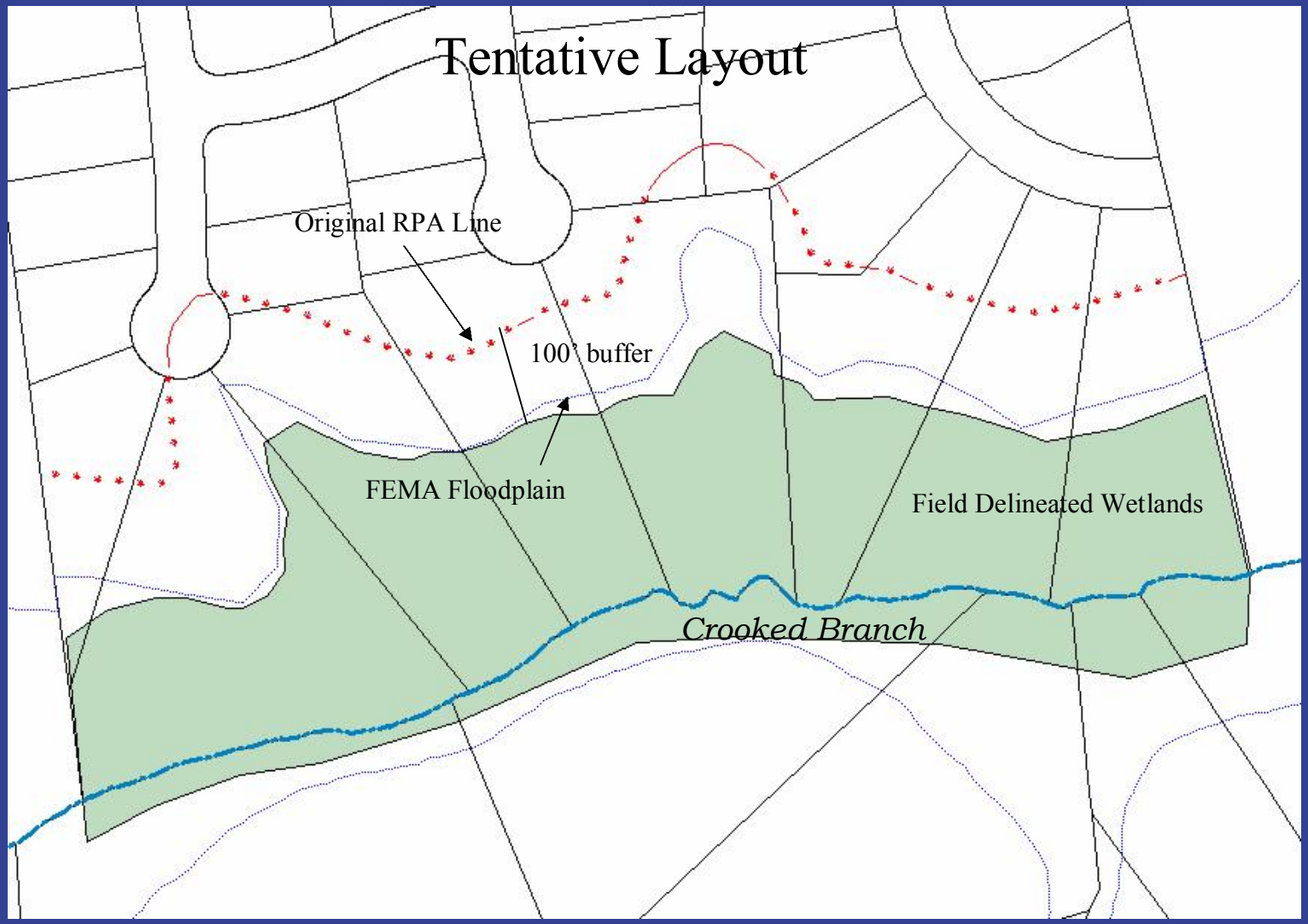
RPA Determination for Residential and Commercial Plans of Development

- Owners/Developers meet with staff for Tentative Subdivision Review and Preliminary Commercial Site Plan Review
- Wetland Delineations are performed by the Owner's Wetland Expert/Soil Scientist and submitted as part of the preliminary plan packet
- Findings are reviewed by Staff and potential RPA adjustments are approved or denied
- Construction Plans are submitted, reviewed and approved
- RPA adjustments are formally revised within the GIS database with Subdivision Plat Recordation and Commercial Construction Plan Approval

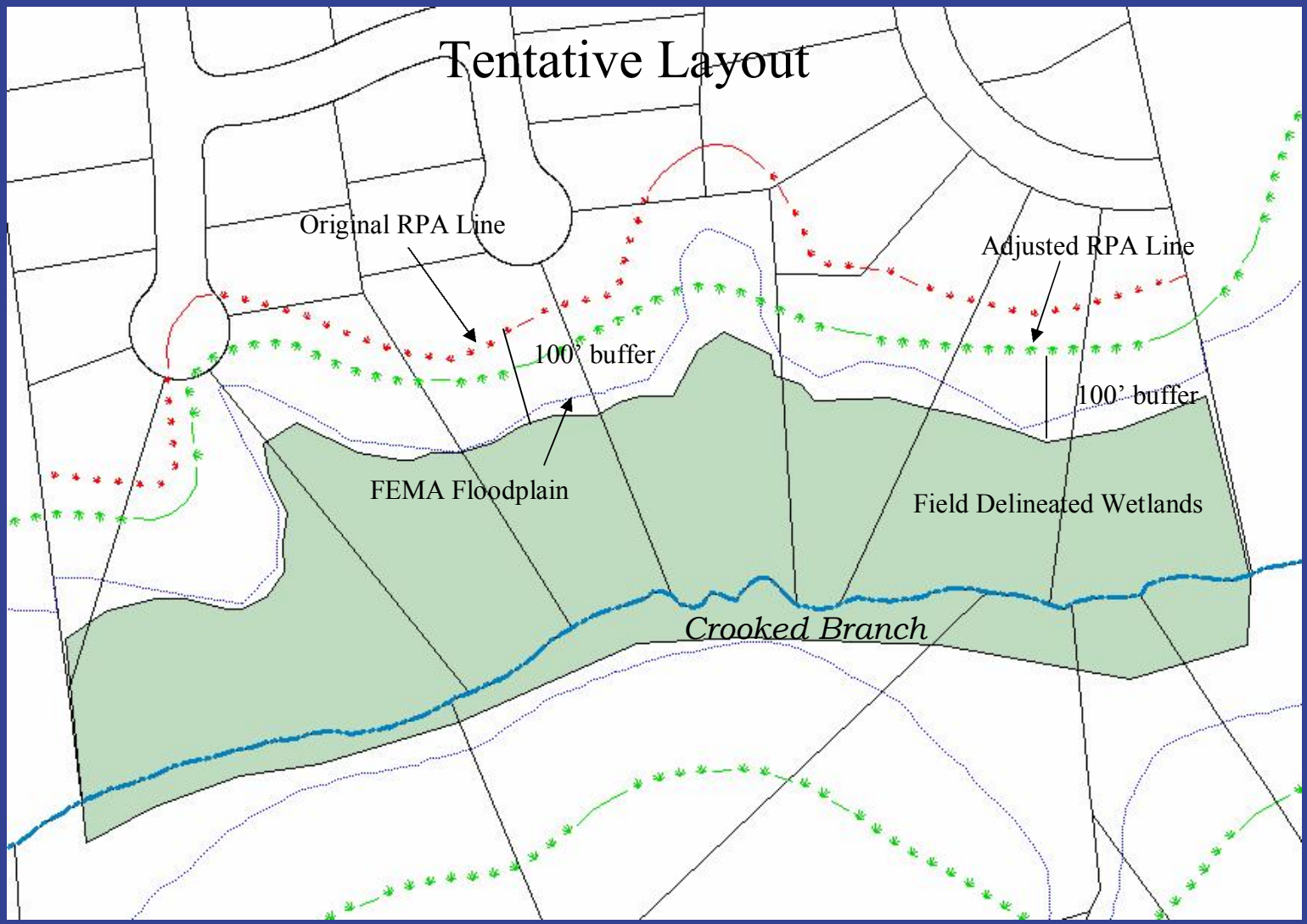
Subdivision RPA Adjustment



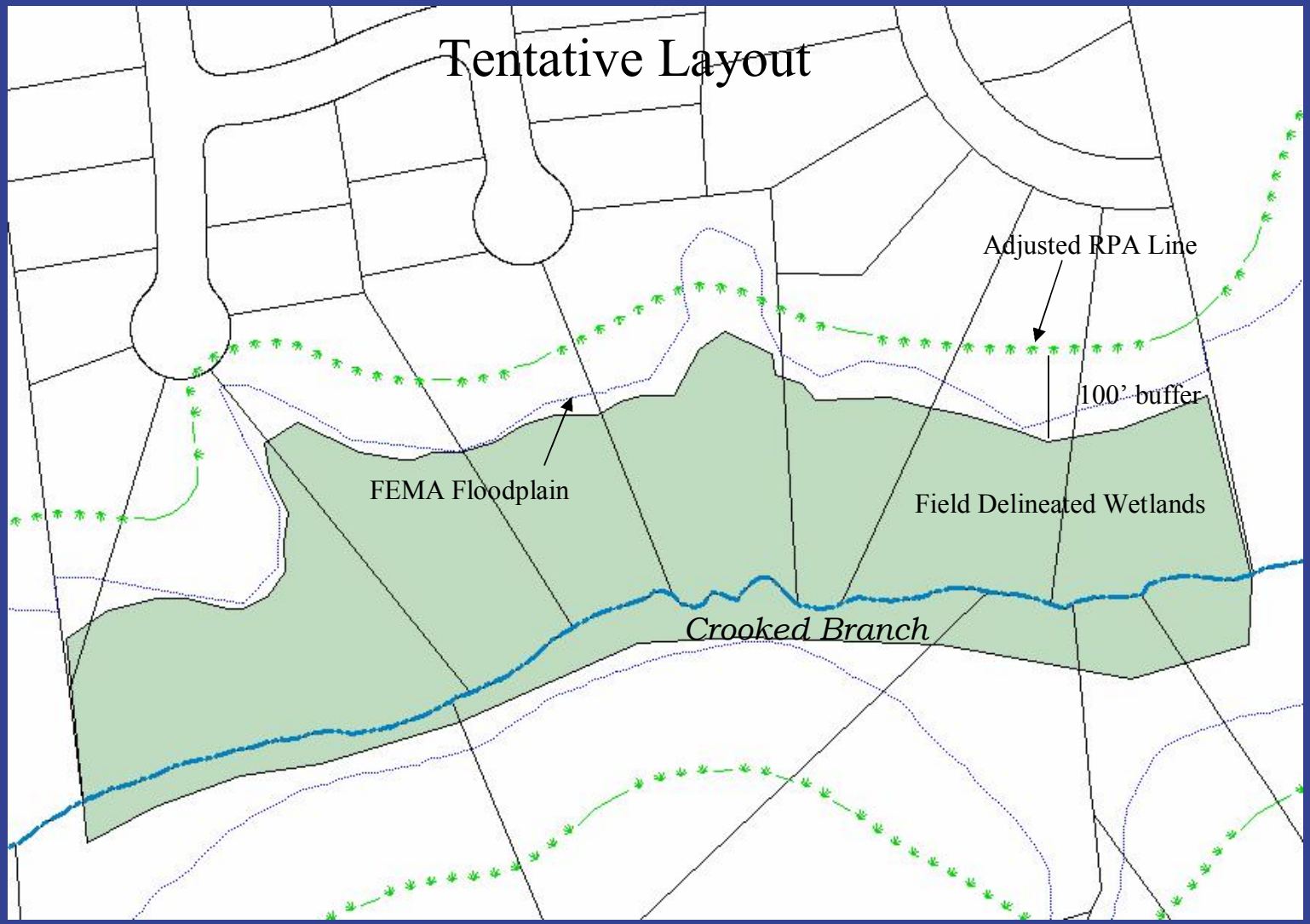
Wetland Delineation



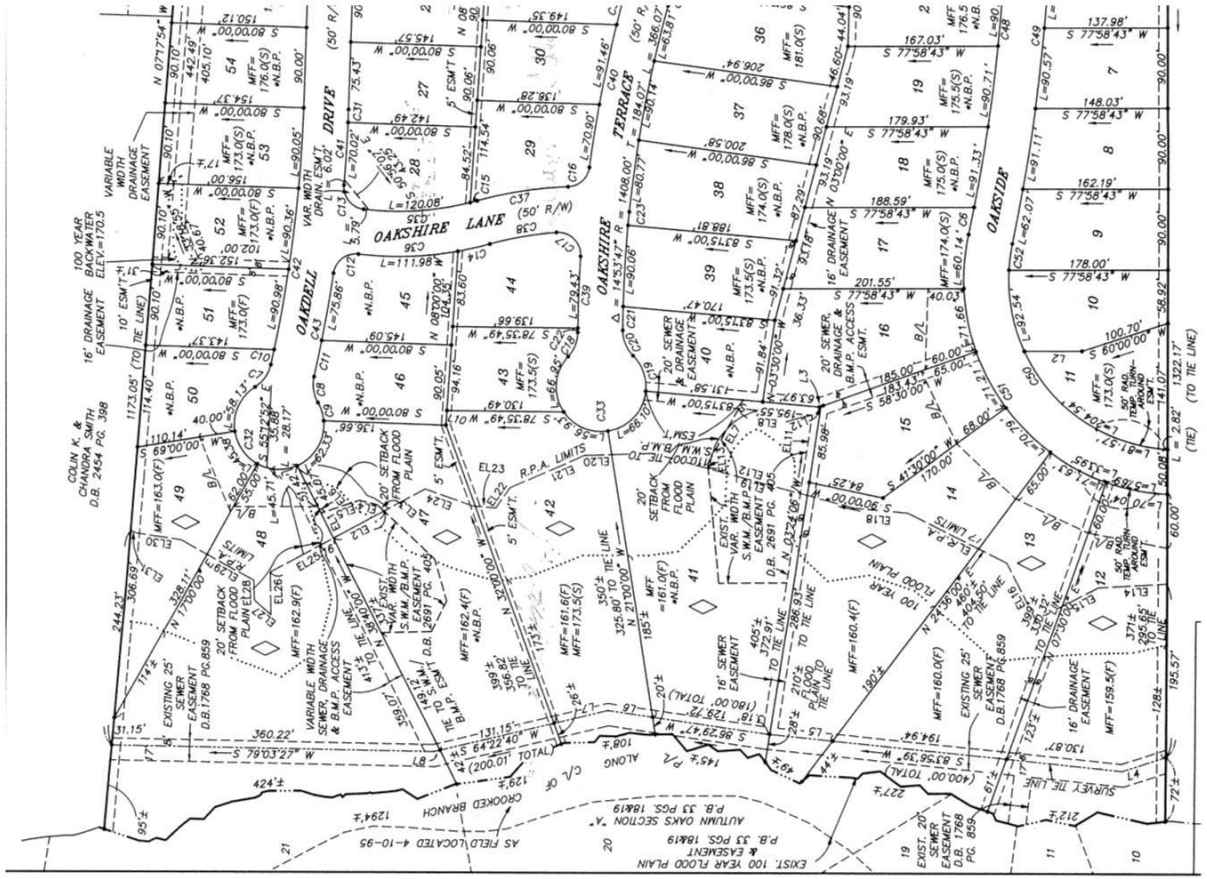
New 100'Conservation Area



Final Determination of RPA



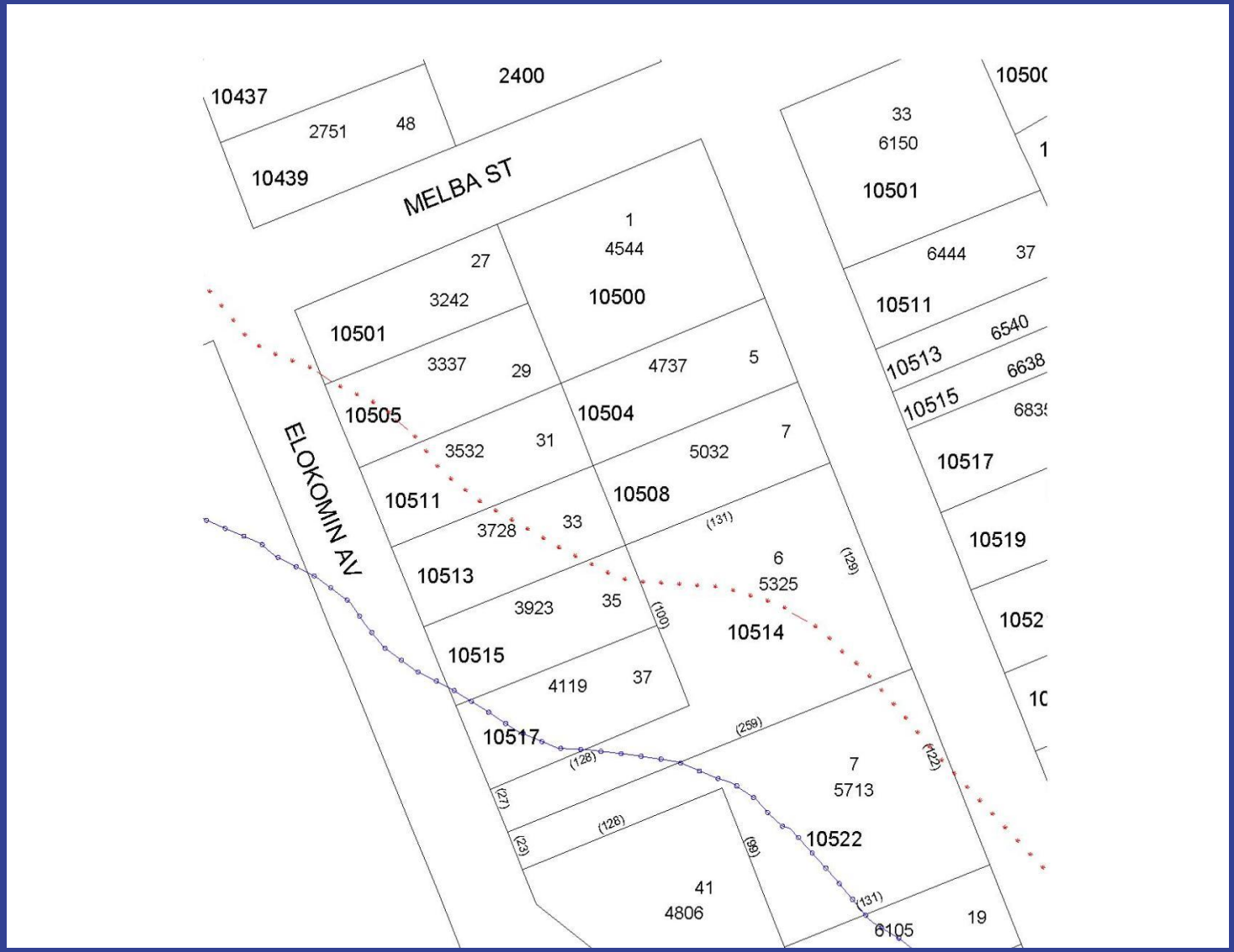
Recorded Subdivision Plat



Screening for Single Residential Permits and Citizen Inquiries

- The date of recordation is reviewed for the lot:
  - On lots recorded prior to 1989:
    - Citizens and staff work together to define the wetland and hydric soil areas, staff may refer citizens to a wetlands expert for ultimate determinations of environmental areas
    - If the application of the RPA criteria results in the loss of a buildable lot, *encroachments* are permitted with conditions that include minimizing the disturbance and dry wells for all roof drainage
  - On lots recorded after 1989
    - A waiver must be granted by the Director of Environmental Engineering for encroachments into the RPA

Single Family RPA Adjustment

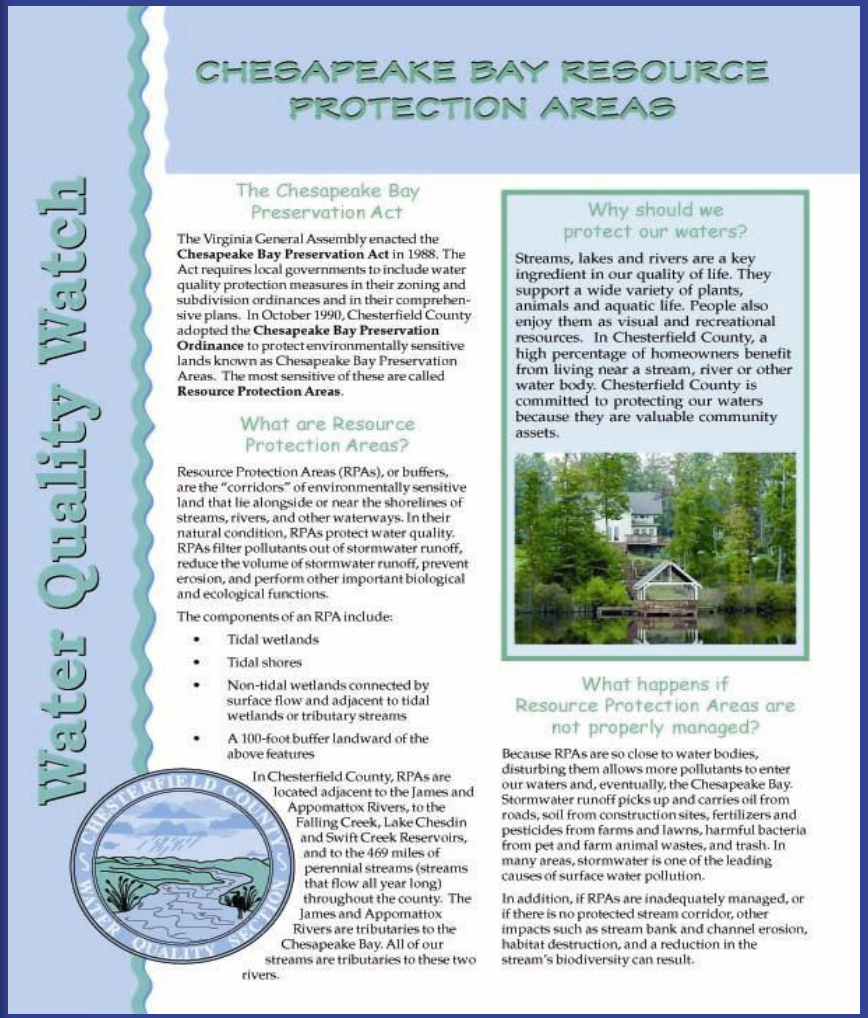


Single Family RPA Adjustment

New Measures to Facilitate Compliance

- Subdivision Ordinance Amended, 2000, requires a 25 foot building setback from floodplain, wetland, and RPA boundaries
  - *(Provides a usable yard area for lots with environmental features to increase citizen awareness and prevent clearing violations)*
- Signs for marking and educating homebuyers are located on all lots with RPA boundaries
- Optic orange fencing is required prior to the issuance of all land disturbance permits
- Educational fact sheets distributed 2001-2002

Fact Sheet Distribution



Water Quality Watch

CHESAPEAKE BAY RESOURCE PROTECTION AREAS

The Chesapeake Bay Preservation Act

The Virginia General Assembly enacted the **Chesapeake Bay Preservation Act** in 1988. The Act requires local governments to include water quality protection measures in their zoning and subdivision ordinances and in their comprehensive plans. In October 1990, Chesterfield County adopted the **Chesapeake Bay Preservation Ordinance** to protect environmentally sensitive lands known as Chesapeake Bay Preservation Areas. The most sensitive of these are called **Resource Protection Areas**.

What are Resource Protection Areas?

Resource Protection Areas (RPAs), or buffers, are the "corridors" of environmentally sensitive land that lie alongside or near the shorelines of streams, rivers, and other waterways. In their natural condition, RPAs protect water quality. RPAs filter pollutants out of stormwater runoff, reduce the volume of stormwater runoff, prevent erosion, and perform other important biological and ecological functions.

The components of an RPA include:

- Tidal wetlands
- Tidal shores
- Non-tidal wetlands connected by surface flow and adjacent to tidal wetlands or tributary streams
- A 100-foot buffer landward of the above features

In Chesterfield County, RPAs are located adjacent to the James and Appomattox Rivers, to the Falling Creek, Lake Chesdin and Swift Creek Reservoirs, and to the 469 miles of perennial streams (streams that flow all year long) throughout the county. The James and Appomattox Rivers are tributaries to the Chesapeake Bay. All of our streams are tributaries to these two rivers.

Why should we protect our waters?

Streams, lakes and rivers are a key ingredient in our quality of life. They support a wide variety of plants, animals and aquatic life. People also enjoy them as visual and recreational resources. In Chesterfield County, a high percentage of homeowners benefit from living near a stream, river or other water body. Chesterfield County is committed to protecting our waters because they are valuable community assets.

What happens if Resource Protection Areas are not properly managed?

Because RPAs are so close to water bodies, disturbing them allows more pollutants to enter our waters and, eventually, the Chesapeake Bay. Stormwater runoff picks up and carries oil from roads, soil from construction sites, fertilizers and pesticides from farms and lawns, harmful bacteria from pet and farm animal wastes, and trash. In many areas, stormwater is one of the leading causes of surface water pollution.

In addition, if RPAs are inadequately managed, or if there is no protected stream corridor, other impacts such as stream bank and channel erosion, habitat destruction, and a reduction in the stream's biodiversity can result.

- 5000 Fact sheets have been mailed to homeowners along RPA streams
- An additional 1500 + have been given to "walk-in" customers

Enforcement of RPA Violations

- Violations are reported by Inspectors and concerned citizens to Code Compliance
- Water Quality staff meets with violators for education and restoration requirements
- Restoration Plan is submitted for approval

Upcoming Challenges to the Process

- Determination of RPA streams from perennial flow
- Walk-in Citizen questions relating to RPA boundaries if the GIS database of "blue-line" streams is only 1 component of determining potential RPA streams
- Providing education to Homebuilders and Realtors to prevent homeowner violations
- Increased workload to determine RPA streams and review plans of development

Questions and Suggestions?